

REMARKS

This document is submitted in response to the Office Action dated March 30, 2006 (“Office Action”).

Initially, Applicants would like to thank Examiner Tidwell and Primary Examiner Yu for granting a telephone interview, conducted on May 16, 2006, to discuss a claim amendment proposed by Applicants.

Applicants have amended claim 18. Support for the amendment can be found in the Specification, e.g., at page 13, lines 17-19. No new matter has been introduced.

Claims 18-27, 38, and 39 are pending. Reconsideration of these claims is requested in view of the following remarks.

Claim Objection

Claim 18 was objected to, as it recites the phrase “wherein the composition is free of any human antigen that is not covalently bound.” See the Office Action, page 2, lines 21-23. The Office Action notes that the claim would be more clear if amended to recite “wherein the composition is free of any human antigen that is not covalently bound to Hsp70.” See page 2, lines 23-25.

Pursuant to the Examiner’s suggestion, Applicants have amended claim 18 to recite “wherein the composition is free of any human antigen that is not covalently bound to the fragment of human Hsp 70.” It is respectfully submitted that claim 18, as now amended, is clear.

Rejections under 35 U.S.C. § 103(a)

The Examiner rejected all of the pending claims for obviousness on two grounds. Applicants respectfully traverse each ground as follows:

I

Claims 18-23 and 38-39 were rejected as being obvious over two references of record, i.e., Srivastava *et al.* (“Srivastava”) in view of Suzue (“Suzue”). See the Office action, page 3, lines 16-19.

Previously presented claim 18 is drawn to an immunogenic composition containing, *inter alia*, a purified protein, the amino acid sequence of which consists essentially of an amino acid

sequence of a fragment of human Hsp70, containing amino acids 481-641 of the human Hsp 70, fused to a human antigen unrelated to a heat shock protein.

Of note, according to the Office Action, the phrase “consisting essentially of,” as recited in previously presented claim 18, should be construed to be equivalent to the transitional phrase “comprising.” See page 4, lines 1-7. In other words, the scope of the claim 18, as construed in the Office Action, encompasses compositions that contain full length human Hsp 70 as part of the fusion protein.

The Office Action notes that Srivastava discloses an immunogenic composition containing, *inter alia*, a full length human Hsp 70, non-covalently bound to an antigen molecule immunospecific for cancer. See page 4, lines 8-11. According to the Office Action, Suzue, on the other hand, discloses a covalently fused mycobacterial heat shock protein and antigen. See page 4, lines 12-13. It concludes that, based on the teachings of these two references, one of ordinary skill in the art would have been motivated make an antigen-human Hsp 70 fusion protein because it can be easily produced in quantity and because each protein has a uniform number of attached and identically positioned antigens. See page 4, lines 14-19.

Applicants have amended claim 18 to recite an immunogenic composition containing, among others, a purified fragment of human Hsp 70, consisting essentially of amino acids 480-640 of the human Hsp 70, fused to a human antigen unrelated to a heat shock protein, the composition being free of any human antigen that is not covalently bound to the fragment of human Hsp70.

During the above-mentioned telephone interview, Applicants' counsel and Examiners Tidwell and Yu discussed the proposed amendment to claim 18. The Examiners agreed with Applicants assertion that the phrase “fragment of human Hsp 70,” recited in amended claim 18, refers to any subsequence of human Hsp 70 that is at least one amino acid shorter than the full length sequence. It follows that amended claim 18 cannot be construed to read on any composition containing a full length Hsp 70.

Neither Srivastava nor Suzue teaches or suggests any fragment of Hsp 70, let alone the fragment having the specific limitations recited in amended claim 18. Indeed, subsequent to the telephone interview, Examiner Tidwell telephoned Applicants' counsel, on May 17, 2006, to confirm that amended claim 18 was acceptable.

Based on the foregoing remarks, Applicants respectfully submit that amended claim 18, as well as claims 19-23 and 38-39 dependent from it, is not rendered obvious by Srivastava and Suzue.

II

Claims 24-27 were rejected as being obvious over Srivastava in view of Suzue and further in view of Tong *et al.* ("Tong"). See the Office Action, page 4, lines 23-27.

Claim 24, dependent from claim 18, is drawn to an immunogenic composition that further contains a cytotoxic compound.

The Office Action points out that Tong teaches a composition containing a chemotherapeutic compound in combination with antigen-presenting dendritic cells in the context of tumor therapy. See page 5, lines 10-14. It concludes that, in view of the teachings of Srivastava, Suzue, and Tong, one of ordinary skill in the art would have found it obvious to include a chemotherapeutic agent with a composition containing antigen-presenting cells and a heat shock fusion protein. See page 5, lines 15-21. Of note, like Srivastava and Suzue, Tong is silent on using a Hsp 70 fragment.

Applicants would like to point out that as claim 24 depends from amended claim 18, the composition of claim 24, like that of claim 18, also contains a fragment of human Hsp 70. In contrast, none of Srivastava, Suzue, or Tong discloses a composition containing a Hsp 70 fragment.

In view of the above remarks, it is therefore respectfully submitted that claim 24 is not rendered obvious by Srivastava, Suzue, and Tong. Neither are claims 25-27 dependent from claim 24.

CONCLUSION

For the reasons set forth above, Applicants respectfully submit that all of the pending claims, as now presented, cover allowable subject matter. Prompt consideration and allowance thereof is solicited.

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No fee is believed due. Please apply any charges to deposit account 06-1050 referencing attorney docket 13886-002001.

Respectfully submitted,

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